**R07** 

## II B.Tech I Semester Examinations, MAY 2011 ANALYTICAL CHEMISTRY **Chemical Engineering**

Time: 3 hours

Code No: 07A3BS05

Max Marks: 80

### Answer any FIVE Questions All Questions carry equal marks \*\*\*\*

- (a) Give the basic principle of gravimetric analysis. How do you estimate nickel 1. by DMG method.
  - [10+6](b) Differentiate between co-precipitation and post-precipitation.
- 2. (a) What is the principle involved in EDTA method of estimation of hard water?
  - (b) Describe briefly the estimation of hardness of water by complexometric method.
  - (c) What is the role of buffer in EDTA titration? What type of buffer is used in these titration? [4+8+4]

### 3. Write shorts note on:

- (a) Neutralization Reactions
- (b) Complex Formation Reactions
- (c) Oxidation-Reduction Reactions. [5+6+5]
- (a) Write the principles and advantages of TLC over ordinary column Chromatog-4. raphy.
  - (b) Write a short note on  $R_f$  value, and Retention time. [8+8]
- (a) Derive Beer Lambert's law. Give its application in quantitative analysis. 5.
  - (b) Evaluate the concentration of a solution if it had an absorbance of 0.555 with molar absorbivity of  $2.22 \times 10^4$  and optical path 1.5 cm. [8+8]

6. (a) Write the important factors that influence the efficiency of Column in HPLC.

- (b) Compare the column of HPLC with GC. [8+8]
- 7. Write the principle of gas chromatography and illustrate advantages of gas chromatography. 16
- 8. (a) What is meant by pellet sampling technique in IR Spectroscopy. Explain it advantages and disadvantages.
  - (b) Write about Mull and Press Pellet sampling techniques. [8+8]

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